REMARKS

The Examiner is thanked for allowing claims 7, 8, 11, and 12, and for indicating allowable subject matter in claims 2, 3, and 6. Claims 9 and 11 have been amended to provide proper antecedent basis, but no new matter has been added. No claims have been added or cancelled. Accordingly, claims 1-12 remain pending.

An IDS is being filed concurrently with this response to provide the references requested by the Office Action.

Applicant has made amendments to the specification to include headings, as requested in the Office Action.

As indicated above, claims 9 and 11 have been amended to overcome the objection of the Office Action.

Rejection of claims 1, 4, 5, and 10 under 35 USC 103(a) as being obvious over Bushmitch et al. (USPN 7,020,823).

Claims 1, 4-5, and 10 stand rejected as being obvious over Bushmitch et al. (USPN 7,020,823; hereinafter "Bushmitch"). The Applicant respectfully submits that Bushmitch fails to disclose or suggest each and every one of the elements as recited in the present claims. Reconsideration of the rejection is earnestly solicited based at least on the following remarks. In particular, the Applicant asserts that Bushmitch fails to disclose or suggest at least following elements of claim 1:

- *arranging the packets to be sent in a packet matrix of D rows and L columns;*
- *to each row and each column of the matrix, applying an error correction function, the result of which is a correction packet enabling the reconstruction of at least one lost packet in the row, respectively the column, to which the error correction function is applied;*
- *sending the resulting correction packets in addition to the data packets*

Claims 4-5 depend from claim 1, and claim 10 includes limitations similar to those quoted above. Accordingly, Applicant will address only the above-quoted limitations.

Applicant's claims include arranging packets of data in a matrix. A correction function, whose result is the calculation of a correction packet, is applied to each line and each column. The correction packet is calculated on a line of packets, or a

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column of packets, and allows the reconstructing of at least one packet lost in the line or column. The packets of data are transmitted as well as the calculated correction packets.

This claimed arrangement is particularly useful in environments in which some packets of data are lost. A receiver may then rebuild the lost packets by applying the correction function to the received packets and the correction packets.

The double protection, which is achieved by applying the correction function to lines and columns, allows a much better reconstructing of the lost packets than simply providing only a line or only a column of protection. In particular, the specification explains that in this way, each data packet is used to compute two correction packets, and the correction rate in the presence of random errors increases significantly while maintaining good correction performance for series of erroneous data packets. See specification at page 3, lines 1-4, as well as page 2, lines 21-22.

Bushmitch relates to error resilient coding for maintaining signal quality in a noisy system, or overcoming data loss without re-transmission. For that aim, traditional FEC coding is implemented, i.e. the original data is organized into channel blocks, a channel block being a matrix of rows and columns with the data organized in successive rows of a set length (see column 2, lines 19-24).

As disclosed at column 2, lines 29-30, <u>each column</u> of the matrix represents <u>one transmission packet</u>. Therefore, Bushmitch does not disclose or suggest that packets to be sent are arranged in a <u>packet</u> matrix of D rows and L columns, contrary to applicant's invention as claimed in claim 1. That is, claim 1 recites that packets are arranged in a "packet matrix", and that within both a row and a column of such a packet matrix there may be "at least one lost packet".

Moreover, Bushmitch discloses that an FEC formula is applied to each row to generate FEC data for that row, where FEC data is arranged as a column at the end of each row (see e.g. column 2, lines 25-28; column 3, lines 7-9; column 7, lines 47-48 or figures 1, 2, 5). Bushmitch notes that data can be arranged in consecutive rows (figure 1) or in consecutive columns (figure 2) but <u>FEC data are in both cases generated for each row and NOT for the columns</u> of the matrix. Therefore, Bushmitch does not disclose or suggest that an error correction function is applied for the columns of the matrix, let alone for each row <u>and</u> each column of the matrix, the result of which being a correction packet enabling the reconstruction of at least one lost packet in the row, respectively the column, to which the error correction function

is applied, contrary to applicant's invention as claimed in claim 1. As disclosed in applicant's specification at page 2, line 24 to page 3, line 4, and as claimed in claim 1, applicant's claim 1 includes applying an error correction function to D packets <u>and</u> to L packets: in this way, <u>each data packet is used to compute two correction packets</u> and the correction rate in the presence of random errors increases significantly while maintaining good correction performance for a series of erroneous data packets.

Indeed, Bushmitch stresses the fact that only a single row-wise FEC coding is performed. Bushmitch states that, regardless of whether the data is arranged in columns or rows, packets are ALWAYS grouped by columns (see column 2, lines 29-30 and lines 45-48), and the FEC coding is ALWAYS orthogonal to the packetization (see column 2, lines 25-26 and 46). That is, Bushmitch ALWAYS does FEC coding based on a row. Bushmitch does not recognize the problem that the presently claimed invention solves, and has no suggestion that FEC coding should be performed on a column, much less that FEC coding should be performed on both rows and columns.

Claims 1, 4-5, and 10 are therefore patentable over Bushmitch.

Rejection of claim 9 under 35 USC 102(e) as being anticipated by Bushmitch et al. (USP 7020823 B2).

Claim 9 stands rejected under 35 U.S.C. 102(e) as being anticipated by Bushmitch. Applicant respectfully submits that Bushmitch fails to disclose or suggest each and every one of the elements as recited in claim 9. Reconsideration of the rejection is earnestly solicited based at least on the following remarks. In particular, the Applicant asserts that Bushmitch fails to disclose or suggest at least the following elements of claim 9:

"*wherein the device includes means for applying this function to rows and to columns of a matrix formed by data packets*"

For at least the same reasons disclosed just above, Bushmitch does not disclose nor suggest that an error correction function is applied to columns of the matrix, let alone each row and each column of the matrix.

Claim 9 is therefore patentable over Bushmitch.

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Accordingly, claims 1, 4-5, and 9-10 are patentable over Bushmitch. Applicant requests that the present rejections be withdrawn and that all claims be indicated as allowed.

In connection with the Supplemental Information Disclosure Statement, please charge the requisite fee to Deposit Account No. 07-0832. If any additional fees are due, please charge them to Deposit Account No. 07-0832. If any credit for overpayment is due please charge them to Deposit Account No. 07-0832.

Respectfully submitted,

Mary-Luc Champel

By: /Brian J. Dorini/
Brian J. Dorini
Attorney for Applicant
Reg. No. 43,594
(609) 734-6817

Patent Operations
Thomson Licensing Inc.
P.O. Box 5312
Princeton, NJ 08543-5312

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